

NPDES Report for the Period July 1-December 31, 1997
Pierce County, Washington
April 1998

This report describes the ongoing activities of Pierce County in fulfillment of the requirements of the National Pollutant Discharge Elimination System and State Waste Discharge General Permit for discharges from municipal separate storm sewers for the South Puget Sound Water Quality Management Area, and the portion of the Kitsap Water Quality Management Area located in Pierce County.

Overall Program Budget Changes

Program budgets in 3 divisions have changed significantly since outlined in the Stormwater Management Program. Water Programs, Planning and Land Services, and Education all saw program budget increases for reasons which are detailed as follows:

1. Water Programs

The Water Programs Division consists of Surface Water Management, River Improvement, Watershed Planning, and Coordinated Water Supply Planning. With the exception of the CWSP, which is currently funded via the County General Fund, all of the other components of the Division received either additional funding or responsibilities as a result of a rate increase passed by the County Council in October 1997, to take effect January 1, 1998. A copy of the rate study was forwarded to DOE shortly after it was initially presented to the Council. That proposal passed intact, except for the addition of a fee reduction to churches, granges and community centers, which will have an impact to CIP. We will not know the full extent of that impact until after the April 1998 taxes and fees have been collected. An additional impact will occur due to the recent passage of a new State law allowing fee exemptions for qualifying senior citizens, but we currently do not know the extent of that reduction. A copy of the 1998 budget for Water Programs is attached to this report.

2. Planning and Land Services (PALS)

PALS obtained fee increases which allowed them to move closer to attaining the goal of having fees fully fund the program. Of particular pertinence to NPDES commitments was the institution of a \$124.20 fee on each single family dwelling permit to cover the cost of erosion and sedimentation control inspections as now required by the Pierce County Stormwater Management Manual, which took effect on November 1, 1997.

3. Education

The Solid Waste Division obtained a \$250,000 Centennial Clean Water Grant to continue: Project WET workshops, volunteer monitoring, producing hardcopy and electronic versions of Environmental Educator's resources available in the region, and fund a second water festival. Part of this money will also fund a

watershed coordinator for 2 years. The significance of this funding is that it allows for greater activity and FTE levels to be maintained than were indicated in the SWMP.

Assessment of Stormwater Program Needs

In developing the rate study proposal in 1997, SWM staff did a review of CIP high priority projects which were listed in our original 1991 **Storm Drainage and Surface Water Management Master Plan** to determine which projects were still relevant. The costs for these anticipated projects were updated to 1997 dollars, and we also included several new projects we have become aware of since 1991. As agreed to in the supplement to the SWMP, we will be starting an in-depth assessment of stormwater program needs, including water quality, starting in 1998.

Capital Improvement Program

For all of 1997, SWM spent \$1,721,054 on the Capital Improvement Program. This amount includes staff, design consultants, land acquisition, and construction. Attached to this document is a table of descriptions of the activities, and a breakdown of the costs for each.

Controlling Runoff from New Development and Redevelopment

The County Council approved adoption of the **Pierce County Stormwater Management Manual** in September 1997. It was implemented beginning November 1, 1997. It will be submitted to Ecology by Apr. 30, 1998 with required supporting documentation so that the equivalency review may proceed. The **Pierce County Pollution Prevention Manual**, adopted by the Council in June 1997, and proposed as equivalent to Part IV of the DOE manual, will be submitted for equivalency on the same schedule.

The Planning and Land Services Department (PALS) is the agency largely responsible for implementation of the **Stormwater Management Manual**. In an effort to meet the needs of the NPDES Program and Pierce County's stormwater permit, the Development Engineering Section of Planning & Land Services filled several positions directly responsible for the program. Funding for these positions was obtained via a PALS fee increase, cost-sharing with SWM, and revenues derived from violations that require the party to obtain a permit and come into conformance.

Development Engineering Inspector Jan Hedberg moved into the newly-created violations inspection position and hired a new ET III to fill her vacant position. We then advertised for a single family erosion control inspector position and hired Max Roberts from the Public Works Department at the beginning of January 1998. We also advertised for a CE II to work directly with Jan Hedberg in the violation section to bring violators into compliance with the permitting process. Paul Barber, a current Development Engineering staff member, was selected, and his vacant project review position is currently being advertised. In February 1998, we added another single family erosion control inspector, Alvin Greeson. We are advertising for another CE II

engineering position on April 16, 1998, which will be assigned to support NPDES review and violations of the Pierce County Stormwater Management and Site Development Manual, Ordinance 96-46S2.

By filling these full-time positions, the Development Engineering Section will have two Civil Engineer IIs and one ET III solely dedicated to filling, grading, clearing, and erosion/sediment control violations; two ET III inspector positions solely dedicated to the single family erosion and sedimentation control measures to be installed prior to commencing single family building construction; and three CE IIs, one CE I, three ET III inspectors, and two ET III counter technicians to supplement the remaining needs and duties to be fulfilled under Pierce County's stormwater permit in relationship to permitted land use projects.

It should also be noted that SWM will be hiring a CEII position in 1998 who will be devoted at least half time as a liason to PALS on issues relating to the Manual and drainage review.

As a brief example of how the new inspections program is functioning, PALS inspectors made site visits in connection with 108 single family erosion control permits in the month of December 1997 (the first full month after enactment of the Manual). Some of these were failed and required new inspections. No footing and foundation inspections were granted until erosion measures were satisfactory.

Industrial Inspection Program

SWM Water Quality staff drafted a Water Quality Investigation and Enforcement Guidance document in December 1997, and are currently completing a Water Quality Illicit Discharge Inspection Program guidance document, both of which will be utilized in the Industrial Inspection Program. The Tacoma-Pierce County Health Department has been working with us in the development of these documents in order to try and combine some facets of their Wellhead Inspections Program into this program, thus increasing County efficiency by eliminating duplicate inspections. We have not yet concluded negotiations with the Utilities department for use of the Pretreatment inspectors in the sewerred, unincorporated areas.

SWM hired 2 Engineering Technician II's in December 1997. These techs will be responsible for inspections connected with this program, as well as assisting in our Monitoring program, and our Drainage Investigations program.

Pollution Prevention Manual and Illicit Discharge Ordinance

The Illicit Discharge ordinance was adopted in June 1997, and became effective on July 1, 1997. The Pollution Prevention Manual provides the technical tools for working with business and industry to prevent stormwater pollution. It is also utilized by PALS in determining methods of stormwater pollution prevention needed when redevelopment occurs for a particular type of business.

Monitoring Program

The last 6 months of 1997 were involved mainly in the planning of future water quality, quantity and groundwater monitoring. Starting in June 1997, SWM Water Quality Group took over NPDES quarterly sampling for County Road Division gravel pits, and the Orting Quarry operated by River Improvement.

Shallow groundwater monitoring for water elevation and some quality parameters began in late 1997 for anticipated CIP projects at: 136th and A St., Tule Lake Rd. And 10th Ave., Ates Pond, and W-1. Flow monitoring, again in connection with CIP projects, was started at Ates Pond, 82nd Ave and 156th St., and the Parkland Ditch at 10th Ave. S.

Sampling for the water quality projects designated in the SWMP will begin in 1998, when additional staff is available, and weather conditions allow for well drilling.

SWM Water Quality personnel also continued to maintain 5 rain gauges . One more will be added in 1999, and telemetry will be added to one station in 1998.

Education Program

During this period of time, one full-time educator and two part-time educators provided the following educational activities:

Community Events

The Key Peninsula Shellfish Festival was held on September 7 to educate residents on the Key Peninsula about their impacts to Puget Sound marine habitat and shellfish. The event was jointly sponsored by Pierce County, the Tacoma-Pierce County Health Department, Pacific Oyster Grower's Association, Puget Sound Water Quality Action Team, Washington Sea Grant, and Elliot's Restaurant. Activity stations relating to groundwater, watershed dynamics, green gardening, water conservation, household hazardous products, and waste management for small farms were set up. The event attracted about 350 citizens. To promote the event and to educate residents, a water quality brochure was sent to 2000 Key Peninsula residents.

We led an activity on non-point pollution for 30 participants at the Nisqually Festival of Waters held on September 28.

Pierce Project GREEN training sessions:

7/9: Water Quality workshop for 10 Chief Leschi students

8/2: Macroinvertebrate training for 65 girl scouts

9/15 & 9/16: Water quality workshop and field training for 77 White River High School students

10/8 & 10/9: Watershed stewardship and water quality testing workshop for 8 participants held through adult continuing education classes at Pierce College.

Citizen Shoreline Inventory

This is a monitoring program to involve volunteers in surveying habitat features of Puget Sound shorelines. Volunteers collect information about substrate, vegetation, wildlife, bank stability, shoreline structures (i.e. bulkheads), and adjacent land uses. A training session was held on October 29 to introduce 19 attendees to the data forms and on November 15, participants met to inventory sections of Rocky Bay. Over 2 miles of shoreline have been surveyed through this program.

As mentioned earlier in this report, the Education group received a Centennial Clean Water Fund grant for \$250,000. This will provide for another .5 FTE for education work, as well as a part-time office assistant to help with public outreach materials.

Operation and Maintenance of Stormwater Facilities

The SWM rate increase approved in October 1997 provided money to begin several maintenance related programs that were previously unfunded. These are outlined fully in the Rate Study, but are repeated here for ease of review. Please keep in mind that these figures are totals for the years 1998-2003:

Development pond maintenance	\$4,269,231
Regional pond maintenance	\$931,565
Creek Maintenance	\$1,340,540

The Roads Division will continue to perform maintenance activities such as pond maintenance, ditch cleaning, catchbasin cleaning, and other activities as indicated in the SWMP. The table attached to this document indicates the extent of these activities for the reporting period. Not included is the figure for vegetation management, which was a \$400,000 contract for all of 1997, and will be the same amount for 1998. It should also be noted that recovery from flooding still had an effect on the figures for late 1997.

The County continues to utilize an Offender Work Crew program in cooperation with our Corrections division. SWM has a crew specifically designated for storm drainage and surface water projects, and sometimes has had a total of 3 crews working on a particular project. Work Crew reports for July-December 1997 (with the exception of October-not available at this time) are attached. We have found this program to be effective for volume of work accomplished, ability to work on private property, and the good public relations it has engendered in assisting with projects that would not have otherwise been done.

Operation and Maintenance of Streets and Roads

Road Maintenance personnel continued to operate and maintain streets as outlined in the SWMP, with figures on those activities concerned with stormwater quality listed in the table attached to this document. As mentioned in **NPDES Coordination**, which is the section following this one, the hiring of a Coordinator in the Roads Division to work with other departments is a significant occurrence, since one of the tasks for this

person is to do an assessment of current road maintenance practices, and how they can be improved, and also to work on the vector waste issue. Both of these items are specifically mentioned in our permit, and work will begin in 1998 on these tasks.

NPDES Coordination

Overall, County coordination activities relating to NPDES and other issues improved in the second half of 1997, as departments budgeted for their portion of NPDES activities, and finally seemed to grow more comfortable with the changes that would entail. The Water Programs manager, and SWM manager quit and retired, respectively, and the new managers, with the passage of the rate increase, have committed to increased coordination and integration of all programs dealing with water issues.

Another position discussed in late 1997, and filled on an interim basis since February 1998 is a new Coordinator position in the Roads Division. We feel the need to mention it in this report to inform DOE of the positive impacts it will have. This coordinator works closely with SWM, and develops and implements operating procedures consistent with the **Pierce County Management Manual**, including updating maintenance standards to reflect water quality issues, and writing the annual Work Plan as required by the Manual. This person will also work closely with SWM and Information Services on the further development and use of the Service Response System, the drainage concern database described in the SWMP, and will also assist in determining Roads needs for GIS as well.

Watershed Planning

The Watershed Planning group received consistent funding via the rate increase for SWM. In the last half of 1997, they continued working on the Kitsap Peninsula Action Plan, and were awarded Centennial Fund monies (in cooperation with the County Environmental Educators) to fund a Watershed Coordinator position for 2 years. This person will work on implementing the Lower Puyallup and Chambers-Clover Watershed Action Plans. They also started discussions with stakeholders on the upcoming development of the Upper Puyallup Watershed Action Plan.

Watershed-wide Coordination Activities

Pierce County continued to meet on a regular basis with the other NPDES permittees and Ecology to discuss and coordinate items and programs of mutual interest.

Adequate information to conduct planning, priority setting and program evaluation activities

Previously, Ecology was concerned by the lack of resources for keeping our mapping updated. Additional personnel made possible by our SWM rate increase, combined with an agreement with our Information Services Department have improved this situation greatly, starting in 1998. Advance planning for 1998 indicates that we will be able to do a pond inventory to update the comprehensive storm drainage maps, and SWM resources will be adequate to update maps as information is submitted from other departments.

Groundwater

The Tacoma-Pierce County Health Department's Source Protection Program had a busy and successful six months in the second half of 1997. Activities conducted included:

- ▶ Passage by the Pierce County Council in late December 1997 of a modified Aquifer Recharge Area Chapter of the Critical Areas Ordinance. The modifications include an expansion of the geographical area protected to include Wellhead Protection Areas and simplifying the review approach for certain types of regulated activities while still maintaining the necessary level of protection.
- ▶ Developing a map of Wellhead Protection Areas for use by spill response personnel. Currently, water system locations and recharge areas are not taken into consideration by spill responders and yet spills have the potential to significantly impact drinking water supplies. Source Protection staff are working with Pierce County Emergency Management to input wells and Wellhead Protection Areas into the Pierce County Geographic Information System (GIS). The map, which is expected to be completed in 1998, will be an important tool in protecting our drinking water supplies.
- ▶ Planning a pilot small quantity hazardous material inspection project for a Wellhead Protection Area. The modified Aquifer Recharge Area Chapter and the GIS map will provide protection from new development and spills in Wellhead Protection Areas. However, one large potential source of contamination is existing development. To better address this, Source Protection staff have been working on a pilot project to perform educational inspections of small businesses that handle hazardous materials within a Wellhead Protection Area. The inspection project will redirect the existing Tacoma-Pierce County Health Department's Small Quantity Hazardous Waste Program to focus on a geographical area instead of on a certain type of business. Progress to date has proceeded slowly, to ensure that the inspections compliment Pierce County Public Works and Utilities' NPDES Permit-required business inspections and sewer pretreatment inspections.
- ▶ Long-term monitoring project staff continued to monitor water quality and quantity of approximately 140 wells throughout Pierce County. Data gathered for the monitoring program is beginning to provide insight into the condition of water resources within the county. The data will be integrated into a TPCHD Geographic Information System (GIS), slated for inclusion in Pierce County's "County View" GIS.
- ▶ The On-Site Sewage Operation and Maintenance (O&M) Program was implemented in the second half of 1997. The program objectives are to protect the health and well being of Pierce County residents through prevention, education, and assurance of proper use and maintenance of on-site sewage

disposal systems; preserve Pierce County's water resources; and comply with the Washington State Rules and Regulations for On-Site Sewage Systems. Public meetings for comments on the regulation were held in July 1997 and the Tacoma-Pierce County Board of Health approved the regulation on August 6, 1997. The O&M Regulation was implemented September 1, 1997 for all new installations, repairs and system alterations, except health letters. O&M for health letters was implemented January 1, 1998.

Drainage and Water Quality Investigations

Water Programs, PALS, and Roads Division continued to respond to drainage concerns. Water Programs staff and Health Department staff responded to water quality concerns. Coordination continues to improve within the County, as each department has discussed and clarified their roles, jurisdiction and limitations concerned with investigations. A report on the number of investigations made is attached.

Pierce County Conservation District and Stream Team

The budget for the PCCD and Stream Team, which are paid from Water Programs funds, were approved in full in November 1997 for fiscal year 1998. Water Programs provides \$57,750 for the PCCD, and \$25,000 for our share of Stream Team. Attached are copies of their half-yearly reports for 1997, outlining their accomplishments.

Pesticide Management

The Roads Division continued to utilize a contractor for spray operations at a cost of \$400,000 for the year, and continued to use the protocols which were submitted with the SWMP.

In addition to various training opportunities available at no cost to the department, members of our Parks Division staff completed approximately 512 hours and \$6,250.00 worth of training, dealing with turf, horticultural, natural and aquatic area management, and pesticide, herbicide, fertilizer and chemical use.

Other 1997 activities include:

Lake Spanaway Golf Course applying for and being selected as a participant in the USGA's Audubon Cooperative Sanctuary Program. The program was established to promote ecologically sound land management and the conservation of natural resources within golf facility operations.

Enlarging the buffer area around the water features on Lake Spanaway Golf Course and modifying the management practices within that area.

Adding rain sensor controls to some of our automatic irrigation systems.

Continuing to improve our chemical and fertilizer storage through minimizing quantities stored, more centralization of storage and improving storage facilities.

1997 CIP Expenditures

Project #	Project Name/Description	1997 Expenditure	1997 Activity
D320	Park Ave & 103rd St. E.	\$19,059	Land and easement acquisition, final design
D818	102nd & Patterson - Construct pipeline to eliminate local flooding	\$29,098	Completed
D306	56th on Squally Creek - Regional Detention Facility	\$5,370	Maintain plantings, monitor wetland establishment, construct wildfowl habitat structures.
D329	McMillen - 136th St. E./122nd Ave. - construct pump station to eliminate large scale flooding	\$353,359	Completed Feasibility Study, basin analysis, land acquisition, alternatives analysis and recommendations
D330	Rody Cr. 90th St /59th Ave. E. - Detention facility and pipeline.	\$39,717	Project close out of construction and maintenance of landscaping.
D821	Rodgers Ridge - pipe excess storm water to eliminate flooding of roadway and community septic system.	\$26,051	Design, identify easement needs.
D328	Fife Heights - Detention pond to reduce local flooding and erosion	\$10,940	Completed in 1996, final closeout in 1997.
D408	Ray Nash Ck/Sylvia Lake - long term monitoring, hydrologic modeling & analysis	\$5,588	On-going evaluation of rural basin and determination of future projects.
D806	Quail Run/Pt. Fosdick - Detention facility, water quality facility, conveyance piping.	\$2,919	Final design - project now within Gig Harbor, County to complete through construction.
D303	E-1 - 132nd St. & Waller - regional detention pond to reduce downstream flooding and erosion	\$494,494	Land acquisition, final design
D319	160th St. E. & Clover Cr.	\$2,275	Preliminary design
D325	Afdem Infiltration Pond - regional infiltration pond to eliminate flooding of roadways, homes and local erosion.	\$263,895	Constructed pipe system leading to pond
D327	W-1 Retention Pond (NFCC) - regional detention pond to reduce downstream flooding and erosion	\$94,588	Final land acquisition, wetlands delineation, preliminary design
D612	SR302/184th Ave. - Rocky Bay - channelize storm flows to eliminate flooding of multiple septic drain fields.	\$44,483	Easement acquisition, design

Project #	Project Name/Description	1997 Expenditure	1997 Activity
D814	Etloh Pipe Outlet - pipe stormwater flows and repair of deeply incised bank.	\$355,407	Completed

The following projects within the Clover Creek Watershed have been included in the 6-year Capital Improvement Program (1998 - 2003) and were used as the basis for the new Surface Water Management rate structure. Additional projects have been identified that need funding after 2003.

One of the key tasks facing the utility is to update the watershed plans and better prioritize the projects required.

Project Name	Project Description/Location	Project Cost
North Fork Clover Creek (Easterly Pond)	Regional detention pond near 132nd St. E. & Waller to reduce downstream flooding and channel erosion.	\$2,275,000
Green Meadows	Regional infiltration pond at 156th St. E. & 78th Ave. E.	\$840,000
Afdem Infiltration Pond	Regional infiltration pond near 128th St. E. & 86th Ave. E. to take storm water from South Hill area.	\$2,900,000
North Fork Clover Creek (Westerly Pond)	Regional detention pond near 128th St. E. & 14th Ave. E./Pipeline Road to reduce downstream flooding and channel erosion.	\$2,675,000
'B' St. Road Elevation	Raise 650' of 'B' St. near 133rd St. E. above the 100-year flood elevation.	\$339,800
192nd St. E. & 22nd Ave.	Infiltration Pond to collect storm water from flood prone areas.	\$2,435,000
Spanaway Airport	Construct ½ mile for ditch and pipe to direct water from flooding area and into natural drainage course.	\$485,000
Glen Oaks	Replacement infiltration pond	\$177,000
North Fork Clover Creek, 3rd pond	Regional detention pond, location not selected, to eliminate downstream flooding and channel erosion.	\$4,717,000

**SUPPLEMENT TO ANNUAL NPDES REPORTS
OF
PIERCE COUNTY, WASHINGTON**

REPORTING PERIOD JULY 1, 1997 TO DECEMBER 31, 1997

1. Notification of annexations or incorporations (S10.B.2)

Attached to this supplement is a series of maps indicating the location of annexations occurring in 1996, 1997 and 1998. Also attached is a table of the size of area annexed, the population in the area, the city it was annexed to, and the date it was annexed. The Gig Harbor annexations comprised the largest area removed from County jurisdiction. This annexation was anticipated, and the area affected was already removed when our rate study was done. Although this annexation comprised approximately 14% of the basin, because the loss of the \$87,000 was anticipated and removed prior to updating our workplan for the area, this loss did not have an effect on our level of service for the remaining portion of the basin. The remainder of the annexations were fairly small, and did not have a significant impact on our rate base.

2. Summary of compliance activities (S10.B.6)

The ability to track compliance actions within the County is improving, and we will continue to work to improve tracking and reporting capabilities. However, for 1997, it was still difficult to obtain enforcement/inspection numbers owing to the diverse County departments responsible for such actions, and the differences in which they choose to track such actions. We anticipate that reporting for 1998 will be more complete with the Code Enforcement and Development Engineering sections modifying their tracking methods largely due to NPDES programs, such as the **Stormwater Management Manual**, being implemented.

For the purposes of this report, attached are sheets outlining grade and fill violations, inspections done by Roads Maintenance and Water Programs for blocked culverts, blocked ditches, drainage system failures, flooding on private property, flooding over roadways, flooding related to development, potential site development violations (no numbers available from Development Engineering due to lack of centralized system of accounting in 1997), and other types of investigations, which would include water quality. PALS Natural Resources also reported a total of 51 violation cases and inspections regarding wetlands in 1997.

3. Known water quality changes (S10.B.7)

To the best of our knowledge, there were no known, quantifiable water quality changes to waterbodies in unincorporated Pierce County. Intuitively, water quality in the Puyallup River System should be improved to some degree, albeit small, by our purchase of over 500 acres adjacent to levees, the setback of these levees, and the removal of 19 homes and their associated septic tanks, animals, and household and agricultural hazardous wastes.

4. Certification and signature of report (S10.C)

A cover letter including the required certification and signature of the Executive is included in this package.

August 28, 1997

NPDES Report for the period July 1, 1996-June 30, 1997

This report describes the ongoing activities of Pierce County in fulfillment of the requirements of the National Pollutant Discharge Elimination System and State Waste Discharge General Permit for discharges from municipal separate storm sewers for the South Puget Sound Water Quality Management Area, and the portion of the Kitsap Water Quality Management Area located in Pierce County.

Section S10 of the NPDES permit outlines the reporting requirements for Pierce County. The sections are outlined and explained in order for ease of review. Italics indicate requirement as taken directly from the permit.

- 1. Status of implementing the components of the stormwater management program, including the status of compliance with the approved implementation schedule, and a description and rationale of any program modifications made during the reporting year, other than those submitted for approval under Special Condition S9.***

Components of the Stormwater Management Program (SWMP) are outlined in Section S7 of the permit.

- 1. A description of a comprehensive planning process used to develop the stormwater management program including public participation, intergovernmental coordination, and the relationship to other planning processes.***

This section, as described in our SWMP, was found to be adequate during Ecology review. As indicated in the SWMP, we will be soliciting additional public participation in the development of the next SWMP via citizen input during the development phase, and stand-alone public review.

- 2. An analysis of stormwater management needs, a system for prioritizing needs, a description of the basis for the priority system and an implementation plan and schedule for the term of the permit that reflect the priority needs. The stormwater management program must have an appropriate balance between prevention and correction based upon available information about sources of***

pollution and discharges from municipal separate storm sewers owned or operated by the permittee.

This process was completed during this reporting period as described in the SWMP, with the exception of a complete analysis of County unmet needs as they relate to water quality. We have committed to doing a more thorough analysis of unmet needs during the remainder of the permit term, as outlined in the SWMP.

3. *Adequate legal authority to control discharges to and from municipal separate storm sewers owned or operated by the permittee.*

On June 17, 1997, the Pierce County Council unanimously adopted **Ordinance 96-47 Illicit Stormwater Discharges**. It was signed by the Executive on June 19, and went into effect on July 1, 1997. As described in the SWMP, this ordinance gives us legal authority to control discharges from industrial sites, prohibits illicit discharges, monitor discharges, and outlines penalties for failure to comply with the terms and conditions described. A copy of the ordinance has been submitted to Ecology for their review.

4. *A program to monitor the effectiveness of the stormwater management program in reducing pollutants discharged and reducing impacts to surface waters, groundwaters and sediments.*

A monitoring program has been proposed in our SWMP, and is still under discussion/clarification with Ecology.

5. *A fiscal analysis, covering the term of the permit, of the capital, and operation and maintenance expenditures necessary to implement the stormwater management program, and a description of staff, equipment, and support capabilities to implement the stormwater management program. The fiscal analysis shall include a description of the source of funds that are available or are proposed to meet the necessary expenditures.*

The fiscal analysis was outlined in the SWMP, and actual expenditures will be addressed in subsequent annual reports once the SWMP is approved.

6. *A mechanism for gathering, maintaining and using adequate information to conduct planning, priority setting, and program evaluation activities.*

The SWMP outlines fiscal and personnel commitments for maintaining maps and databases starting in 1998.

7. Identification of watershed-wide coordination mechanisms.

We continued to pursue the watershed-wide coordination mechanisms as outlined in the SWMP and found adequate by Ecology.

8. The stormwater control components listed below, with levels of effort established in accordance with the priorities established in Special Condition S7.B.2:

a. A program to control runoff from new development, redevelopment and construction sites that discharge to the municipal separate storm sewers owned or operated by the permittee.

Pierce County SWM staff continued to work on the **Pierce County Stormwater Manual** during this reporting period, and as of the time of submitting this report, are in the final stages of moving this piece of legislation through the County Council toward final approval, with implementation to begin as outlined in the SWMP.

b. Appropriate treatment and source control measures to reduce pollutants in runoff from existing commercial and residential areas that discharge to municipal separate storm sewers owned or operated by the permittee.

County Road Maintenance personnel continued to perform ditching, culvert clearing, pond maintenance, street sweeping, catchbasin cleaning, and other activities as described in the SWMP during the reporting period. Requirements in the **Stormwater Management Manual** for stormwater structure maintenance for private and public facilities will have an impact in the future. Implementation of the Industrial Inspections program as per the schedule in the SWMP will also have a future impact. Currently, Pretreatment inspectors notify the appropriate agency when they observe a site with potential to pollute the stormwater system.

c. Operation and maintenance programs for new and existing stormwater facilities owned or operated by the permittee, and an ordinance requiring and establishing responsibility for operation and maintenance of other stormwater facilities that discharge into municipal separate storm sewers owned or operated by the permittee. The programs shall include a strategy for addressing the disposal of street waste decant, and cooperative efforts with Ecology and other entities to develop decant solutions.

Road Maintenance personnel continued to maintain publically owned and/or operated stormwater facilities. Please see the table below for specifics of their work from Jan. 1, 1997-July 31, 1997. The required

ordinance is attached to the Pierce County Stormwater Management Manual, and as mentioned above, is currently working its way through our legislative process.

The issue of street waste decant is one which our Road Maintenance Division was working diligently on in trying to find a regional solution for decants and solids via a public/private venture. Progress was halted with the closure of one vendor's composting site for odor control problems, and the sale of another site. As of the writing of this report, the County Road Maintenance, Solid Waste, and SWM divisions are planning to meet to regroup and investigate alternative strategies.

Activity	Planned 1997	Actual 1997
Ditching with backhoe	47,000 lineal feet	72,000 lineal feet
Ditching with Drott	20,900 lineal feet	19,500 lineal feet
Belt loading	123 miles	153 miles
Manually clean culvert ends	6000 each	1900 each
Mechanically clean culvert ends	1216 each	658 each
Grate tops cleaned	933 each	1768 each
Mechanically clean catch basins	3300 each	2037 each
Jet rodding	133,700 lineal feet	105,333 lineal feet
Repair/replace culvert pipe	2164 lineal feet	3569 lineal feet
Repair/replace catchbasin	506 labor hours	1012 labor hours
Repair/replace drywells	1627 labor hours	2795 labor hours
Erosion control repair	500 labor hours	860 labor hours
Holding ponds	41 each	25 each
Ditching with Ditchmaster	151 miles	82 miles
Street sweeping (self-contained)	2610 lane miles	1854 lane miles
Miscellaneous drainage	3575 hours	6790 hours

NOTE: Please recall that flooding events have had an impact on the numbers above.

- d. ***Practices for operating and maintaining public streets, roads, and highways, including rest areas, to reduce stormwater runoff impacts.***

Road Maintenance personnel continued to operate and maintain streets as outlined in the SWMP, and as summarized in the table above. A thorough analysis of the adequacy of these methods is listed in the Unmet Needs chapter of the SWMP.

- e. ***A program to include water quality management considerations into flood management projects, including a schedule for retrofitting existing projects to the extent practicable.***

Pierce County River Improvement made some significant progress in the area of water quality this year on both the river system and their active rock quarry:

River System:

1. Purchased 17 homes and 12 vacant parcels located in the FEMA regulatory floodplain and/or floodway. This removes the pollutant potential associated with floodplain land use such as septic system effluents, fertilizers, animal manure, fuels, heavy metals, etc.
2. Began design and construction of a 10,000 lineal foot setback levee structure adjacent to the upper Puyallup River, right bank. This allows migration of the river to side channel and floodplain areas, and opens up old wetland areas thereby creating new, improved and healthy wildlife habitat.
3. Removed trash and debris from levees and floodplain properties as part of routine maintenance activity, thereby reducing pollutant potential.
4. Repaired levees to stabilize the structure itself, thereby reducing erosion potential and the associated water quality degradation.
5. Performed plan review of proposed developments to assure compliance with current floodplain regulations, in an effort to eliminate and/or minimize floodplain encroachment on the river system.
6. Participate in a countywide and multi-jurisdictional Gravel/Sediment Removal Ad-Hoc Committee, in an effort to standardize methods and minimize impacts to water quality and the fisheries resource.
7. Participate in a Statewide and multi-jurisdictional (federal included)

Levee Vegetation Standards Management Committee, in an effort to achieve consistent allowable standards for vegetative cover on floodcontrol/levee structures.

Orting Rock Quarry Facility:

1. Constructed outfall piping and energy dissipation system down steep side slope adjacent to main access road and nearby quarry offsite discharge point, thereby minimizing erosion and water quality degradation potential.
2. Performed routine maintenance on general drainage system to preserve proper functionality.

Surface Water Management was in the planning phase on a number of projects during the reporting period. Plans confirmed so far include:

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1. Afdem Infiltration Pond (construction planned Summer 1998) - all stormwater entering this facility will pass through a two stage settling pond. The second pond will also be planted with wetland plants to increase the filtration effect. The bottom of the infiltration pond will also be lined with a sand filter as a final water quality measure.
 2. Rogers Ridge Pipeline (construction planned Fall 1997) - This pipeline will direct water from a failed plat pond to the Afdem Infiltration Pond. Flow from this pipeline will be directed through the water quality control features described above. Since the pipeline will be constructed prior to the Afdem project, a temporary sediment removal basin will be installed.
 3. E-1 Detention Pond (construction planned Summer 1998) - This very large regional stormwater detention pond will incorporate a constructed wetland with open water, shallow water and upland areas all within the pond. A sediment settling pond which can be easily maintained will be installed prior to discharge into the wetland. In addition to flooding, this project was prompted by downstream erosion and channel degradation from peak flows. These problems should be controlled, if not eliminated, once the pond is in place.
 3. W-1 Detention Pond (construction planned 1999-2000) - This pond is similar in design and function to the E-1 pond.
 4. Rocky Bay - Site One (construction planned Fall 1997) - A simple ditching project to eliminate the saturation of a septic drainfield

area and the possible conveyance of fecal material into the receiving water. This project is being constructed solely to resolve a water quality problem.

5. Rocky Bay - Site Two (construction planned Spring 1998) - This project is a more complex piping project, but the goal is the same as Site One. This project will also incorporate a bio-swale prior to discharge into Rocky Bay.

It should also be noted that one project which had been scheduled to be constructed in 1997 has now been cancelled due to incorporation of the area by the City of Gig Harbor. The Quail Run project was to include cylindrical compost filters for water quality improvement prior to discharge. Pierce County will complete the design of the facility, and transfer the design to the City of Gig Harbor.

- f. A program to reduce pollutants associated with the application of pesticides, herbicides and fertilizer discharging into the municipal separate storm sewers owned or operated by the permittee.*

Programs for Parks and Recreation, and Roads Maintenance were continued as outlined in the SWMP. Reduction of the use of herbicides, pesticides, and fertilizers is a mainstay component of the Pierce County Solid Waste education program.

- g. An ongoing program to detect, remove and prevent illicit discharges and improper disposal, including spills, into the municipal separate storm sewers owned or operated by the permittee.*

During the reporting period, any complaints related to spills and illicit discharges were investigated by SWM or other appropriate agency, and other agencies, such as Ecology, were brought in or notified as needed. The Industrial Inspections program currently being developed will be our main means of detecting, removing and preventing illicit discharges.

- h. A program to reduce pollutants in stormwater discharges from industrial facilities that discharge into municipal separate storm sewers owned or operated by the permittee, and ensure compliance with local ordinances.*

As mentioned previously, Pierce County enacted Ordinance 96-47 Illicit Stormwater Discharges on July 1, 1997, enabling the development of an industrial inspections program, for which implementation will begin by the end of this year.

- i. An education program aimed at residents, businesses, industries*

and employees of the permittee whose job functions may impact stormwater quality. An education program may be developed locally or regionally.

Public Works and Utilities Solid Waste educators continued their school curricula as outlined in the SWMP. They gave presentations for 15,000 students in 1996 on solid waste and water quality, and 23 seminars on composting. They have also recently obtained a Centennial Fund grant to expand their water-related education programs, as well as obtaining money to hire a Watershed Coordinator. The NPDES Permittee Interagency Work Group resumed discussions on developing regional programs. The upcoming Industrial Inspections program will provide one-on-one education opportunities with businesses. The Stream Team continued to provide Education opportunities in the form of stream walks, classroom instruction with experts, and field training and monitoring.

2. ***Notification of any recent or proposed annexations or incorporations resulting in an increase or decrease in permit coverage area, and implications for the stormwater management program.***

Annexations to Gig Harbor, Puyallup, and Fife occurred during this period. This resulted in a decrease of County permit coverage, and it is estimated that it will reduce SWM revenues by approximately 5 percent.

3. ***Differences between planned and actual expenditures for the reporting period, with a breakdown for the components of the stormwater management program, and the budget for the year following each annual report. For the first three years, Ecology will accept narrative descriptions of portions of the reported expenditures and budget which are not easily tracked or identified through existing fiscal processes. However, over the term of the permit, reports shall evolve to reflect numeric expenditures for the components of the stormwater management program.***

During the reporting period, SWM proposed a new rate structure to be able to meet its NPDES obligations and provide additional services to County citizens. This proposal is currently in discussion with the County Council and Executive, coincident with discussion of the County's 1998 budget. Details on the results of this process will be provided to Ecology as they become available.

4. ***Revisions, if necessary, to the remaining years of the fiscal analysis reported in the approved stormwater management program.***

No revisions are proposed at this time, pending outcome of the process described in 3 above, and the subsequent approval of the SWMP fiscal proposal by Ecology.

5. ***For the fourth year report, a summary and analysis of the cumulative monitoring data collected throughout the term of the permit.***

Not applicable for this report.

6. ***A summary describing compliance activities, including the nature and number of official enforcement actions, inspections, and types of public education activities.***

Tacoma-Pierce County Health Department Activities Assisting With the Pierce County NPDES Permit, July 1, 1996 through June 30, 1997

Ground Water

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Aquifer Recharge Area - Progress has been made on incorporating Wellhead Protection Areas into the Aquifer Recharge Area Ordinance. This will require that additional protective measures be incorporated into certain types of new development in Wellhead Protection Areas. The modified ordinance was included in a repackaged critical areas ordinance in the spring of 1997 and was presented to the Pierce County Planning Commission in June 1997. The Planning Commission approved the modified ordinance and the complete critical areas package has been sent to the Pierce County Council for review and final approval. It is anticipated that the modified ordinance will be adopted in the fall of 1997.

Long-term Ground Water Monitoring - This program, which began in 1996, is well underway, with approximately 90% of the selected 140 wells being monitored and reporting the data back to the health department. The database developed for the program uses Microsoft ACCESS and includes both water level and limited chemistry data. Historical information was also incorporated into the database, including 10,000 water level records and 8,000 monthly production records for 80 wells.

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Surface Water Program - Numerous lake inspections were performed this year to monitor for toxic algal blooms. Eight bioassays were performed and two toxic blooms were identified. A toxic bloom of the Cyanobacteria Microcystis aeruginosa was identified in the summer of 1996 in Waughop Lake, in Fort Steilacoom Park. A press release was issued and signs were posted notifying the public of the situation. The second toxic bloom was identified in the spring of 1997 in American Lake. A small toxic bloom of Anabaena flos-aquae was noted along the northern shoreline of the lake. Since the bloom was very small and quickly died off, no press release was issued.

On-Site Sewage Operation and Maintenance Program - The On-Site Sewage O & M Program has developed this past year from a theoretical concept into an actual program. This program will require that a permit be obtained for all new,

repaired, and remodeled on-site sewage systems and that these systems be inspected on a regular basis. Properties requiring a health department inspection prior to a sale or refinance will also be brought into the program. A draft O & M Regulation was drafted in early 1997 and reviewed by agency and industry staff. Following revision of the draft, two public meetings were held to solicit public input. The draft regulations are expected to be presented to the Tacoma-Pierce County Board of Health for adoption in early August and program implementation is anticipated shortly thereafter.

Planning and Land Services (PALS) Activities

2
The Development Engineering Section of PALS added an inspector to the staff solely dedicated to NPDES violations and Site Development Regulation violations. This inspector, with support from the other 4 DENG. area inspectors, not only deal with bringing violations into conformance, but assure that ongoing development keep their erosion control installed and working. The NPDES inspector has 135 complaints and violations on her plate to visit and deal with. The area inspectors continue to hold pre-construction meetings to discuss techniques and problem prevention.

Surface Water Management Activities

3
Surface Water Management personnel responded to hundreds of regular drainage and water quality review requests, and emergency requests during the reporting period. At the time of this writing, we are in a transition phase with our Service Response System, and are unable to give exact numbers. As soon as these figures become available, we will provide them to Ecology.

7. Identification of known water quality improvements or degradation.

There were no known significant, quantifiable water quality improvements or degradation related to stormwater that we are aware of during the reporting term. Non-stormwater related concerns included the temporary algae blooms mentioned above, and results from Stream Team testing indicating elevated nitrate levels in Goodnough Creek, which are being investigated.

8. Status of watershed-wide coordination and activities which the permittee has undertaken individually or jointly as part of Special Condition S7.B.7.

The NPDES Interagency Work Group has continued to meet (recently increased to bimonthly) to discuss ways in which we can partner on issues of education, monitoring, BMP research, enforcement, stormwater management manuals, and road maintenance protocols. Pierce County Information Services and SWM personnel have met with King County to review GIS applications and how they overlap.

How about cities
in your watershed?

Watershed Planning Activities

Since July of 1996 the watershed planning staff which including two and one-half planners, have been writing (with the help of citizen groups) two planning documents aimed at identifying and suggesting remedies to reduce non-point source water pollution. These plans are the American Lake Watershed Plan and the Key Peninsula, Gig Harbor, Islands Watershed Plan.

The staff is also involved in implementing two other watershed plans. The Chambers-Clover Creek Watershed Plan and the Lower Puyallup Watershed Plan. These implementation efforts include working closely with two citizen committees charged with the long term management of the Plans. They are know as Watershed Councils.

This section has also been directed to help coordinate the agencies and departments listed in the Rocky Bay Shellfish Protection Plan. They have sponsored numerous public meetings and education sessions, such as the importance of septic tank maintenance in the near-shore environment.

This Plan was adopted by the Pierce County Council in February of 1995 due to the State Health Department closure of Rocky Bay because of high bacteria counts in water used to grow shellfish.